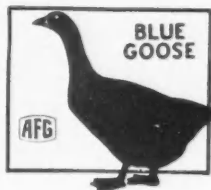


Vol. 2 No. 9

TAMPA, FLA., SEPTEMBER, 1921

15 Cents a Copy



Personal Representation

Personal representation in every market, makes not only for a wider and more profitable distribution, but for prompt acceptances, protection of the commodity upon arrival and prompt collections and returns. Personal touch is essential to the thoroughly satisfactory handling of a shipper's account in the buying centers.

The American Fruit Growers Inc., believes in personal representation in every buying center. It has sales representatives in more than 140 cities in the United States and Canada, linked together into a high-powered, co-ordinated sales force.

Through this sales service, the American Fruit Growers Inc., is in a position to offer a 100 per cent sales program to progressive growers who believe in doing their part in standardizing and stabilizing the fruit industry.

American Fruit Growers Inc.,

Orlando, Florida

A frank statement from the

Standard Growers Exchange

In joining the Florida Citrus Exchange, the Standard Growers Exchange has changed its methods only in relation to the packing and marketing of citrus fruits.

While in the future grapefruit, oranges, tangerines, etc., produced or purchased by the Standard Growers Exchange will be packed and sold by the Florida Citrus Exchange, the other activities of the Standard will be continued as heretofore.

The Standard Growers Exchange will continue to buy fruit crops on the tree and plans to extend its operations in this field to cover practically every section of citrus Florida. However, no fruit knowingly will be bought from members of the Florida Citrus Exchange, without the consent of the local sub-exchange.

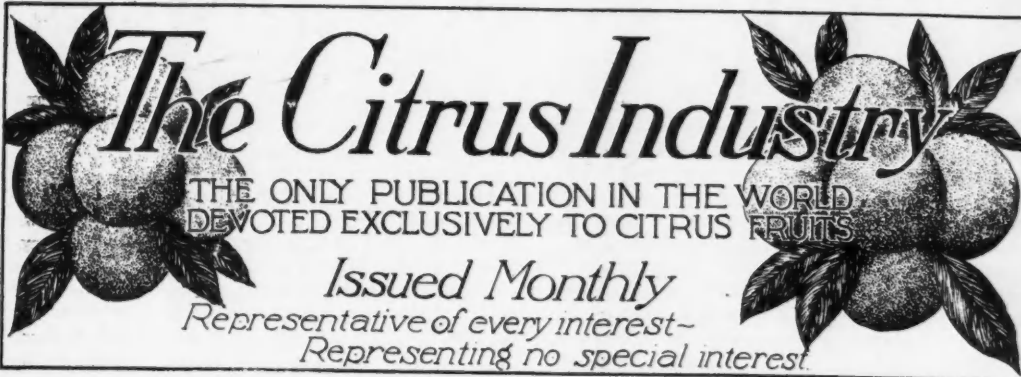
It is felt by the owners and managers of the Standard Growers Exchange that through membership in the local associations and Sub-Exchanges of the Florida Citrus Exchange and the efficient service of the sales department of that organization, the Standard will be enabled to become even more helpful to growers than in the past.

The future prosperity of the citrus industry depends upon unity of action by growers, with due regard for the interests of other factors in the distribution and sale of their product. Proud of the part it has taken in the development of the fruit business of the state, the Standard Growers Exchange welcomes the wider opportunity for service opened to it by affiliation with the Florida Citrus Exchange.

Standard Growers Exchange

Orlando, Florida

SPECIAL NOTE: The vegetable and peach department of the Standard Growers Exchange is not affected by the consolidation and will be continued as before.



Vol. 2

TAMPA, FLORIDA, SEPTEMBER 1921

No. 9

To Investigate Wharf and Storage Charges.

Inter-State Commerce Commission Calls Meetings at South Atlantic and Gulf Ports.

The State Law Reporting company; Woolworth building, New York City, calls attention to the purpose of the interstate commerce commission to investigate the charges for wharfage, handling, storage and other accessorial services at South Atlantic and Gulf ports. It is expected that the investigation will be extended also to the North Atlantic seaboard.

It is the purpose of the commission to investigate in a broad and comprehensive way, the charges of the carriers for the services above mentioned, the nature of the services rendered by the carriers for such charges, and the cost thereof; and the facilities employed by the carriers in rendering such services; and also to endeavor to gather information for comparative purposes, as to similar charges, costs, services and facilities of water terminals at the ports in question which are not owned, controlled or operated by the carriers.

The commission will also inquire into the propriety of absorption of terminal charges at the ports by the carriers, and will endeavor to ascertain whether under existing conditions affecting charges, services or facilities at the ports, any ports, shippers, localities or descriptions of traffic are unduly prejudiced or preferred; whether the proper growth and development, or the construction

or improvement of terminal facilities at any port are unduly restricted, and whether the free and natural flow of commerce through the various ports and the economical, expeditious and efficient handling of traffic at the ports is unduly impeded.

Hearings will be held before Examiner Keeler as follows:

Norfolk, Va.	Sept. 19
Charleston, S. C.	Sept. 26
Savannah, Ga.	Sept. 28
Jacksonville, Fla.	Sept. 30
Mobile, Ala.	Oct. 2
New Orleans, La.	Oct. 6
Galveston, Tex.	Oct. 10

Order

At a general session of the interstate commerce commission, held at its office in Washington, D. C., on the 9th day of April, A. D. 1921.

No. 12681

In re charges for wharfage, handling, storage and other accessorial services at South Atlantic and Gulf ports.

The commission having under consideration the matter of the charges for wharfage, handling, storage and other accessorial services at South Atlantic and Gulf ports:

It is ordered, That the commission upon its own motion enter upon an investigation with respect to the reasonableness and propriety of the charges of the common carriers sub-

ject to the interstate commerce act, and applicable to interstate or foreign commerce, for wharfage, handling, storage and other accessorial services at the South Atlantic and Gulf ports at and south of Hampton Roads, Va., and also as to the propriety of including in the rates to and from the ports, the cost of or charges for the above services, with a view to prescribing such reasonable and proper rules, regulations and charges as may appear to be appropriate.

It is further ordered, That copies of this order be served upon all common carriers subject to the interstate commerce act; and that such carriers be made respondents to this proceeding.

And it is further ordered, That this proceeding be assigned for hearing at such times and places as the commission may hereafter direct.

By the commission:

GEORGE B. MCGINTY, Secretary.

By a supplemental announcement dated June 22, 1921, the commission states that "It has been concluded that the order instituting the investigation will be construed as including within its scope switching charges to and from the water terminals at the ports in question, and free time allowances on ocean traffic while in cars or in storage warehouses at the ports."

The Papaya--a fruit of Promise

By Dr. J. Petersen, Miami, Fla.

(Copyrighted)

Four years ago my daughter Kathe—then eleven years old—set out a little papaya grove of her own, covering a space of 100 by 100 feet. One day she made the following entry in her diary:

"I have planted 160 papayas; there are 150 female and 10 male trees; they are crowded with fruit; each tree bears about 125 pounds of fruit which I can sell at eight cents a pound, making \$10 per tree, or a total of \$1,500. The fruit will be ripe in January and February. When I have sold it I will buy mother a sewing machine and daddy a self-starter for his flivver, then he need not curse his poor, innocent little Ford any more, and we will always be on time for school."

And then, one morning in January, 1917, when my little Kathe rubbed her eyes sleepily and looked at the papaya grove from her bedroom window, she noticed that all the leaves were dropping just like the wings of a lame bird, and that the fruit was covered with papain.

That evening she wrote in her diary, "No sewing machine or self-starter this year. My papayas are all gone. Jack Frost got away with them."

But our little horticulturist did not get discouraged; she has learned from experience that all dreams cannot come true. Today she has 50 papaya trees in the back yard, loaded with fruit to be harvested before Jack Frost can have a chance, and she is confident that her papaya crop will pay for her first year at college.

Papaya Culture Is Interesting and Remunerative

The home of the papaya is supposed to be the wild forests of South America. Apparently it was one of the first tropical fruits to attract the explorer, for soon after the discovery of that continent, papaya seeds were taken to the orient, where the fruit today is highly valued. In Hawaii and other tropical countries the papaya is considered the most delicious breakfast fruit and ranked in importance next to the banana.

Although the papaya has been known for 400 years, but little literature is available concerning data regarding its propagation and culture.

While this subject has received considerable attention recently, a

great many problems still remain unsolved. The most important of these is the selection and breeding of better varieties of uniform size and flavor, and without the undesirable characteristics of their jungle ancestors. Other problems are grafting, protection against enemies, and marketing.

Papaya culture is indeed very attractive. Either singly or in a group the tree always draws attention, while a well-arranged grove is a picture of beauty.

Most fruit trees require a long lapse of time before they yield returns; not so the papaya. Quick production and immense yields are among its decided advantages. Furthermore, it bears practically every

remunerative occupation. At any rate, the papaya merits more extensive cultivation than it has been given up to date in Florida.

Strictly tropical in its requirements, the papaya can only be grown safely in comparatively frostless regions. This limits papaya culture on the United States mainland to south Florida and southern California.

According to various horticultural writers, the papayas produced in California are of inferior quality, their insipid flavor being caused, it is supposed, by the prevailing low night temperature.

It was observed after the 1917 freeze in south Florida, that papayas growing even in especially protected places were of inferior flavor and unfit to be used for cooking purposes.

Useful and Delicious

Papayas may be used in numerous ways. If served for breakfast or after dinner, they are cut lengthwise and eaten with a spoon, after the seeds and the thin gelatinous aril have been removed. According to taste, salt, pepper or lemon juice may be added.

If eaten raw, papayas somewhat resemble the northern cantaloupe. However, eating cantaloupes is like betting on horses, deliriously uncertain. Eating papayas is like a continued honeymoon, like Hashish has it in the "Arabian Nights."

Sliced and served with whipped cream, papayas make a delicious dessert, and in combination with lettuce or sliced cucumbers, a wholesome and nourishing salad.

Papaya marmalade and jelly are greatly relished, especially if prepared with lime or lemon juice. Then there are numerous other ways to utilize the ripe papaya—for pies, short cake, sherbets and pickles.

Unripe papayas can be boiled or stewed and served as a vegetable, like squash or kohlrabi. The green fruit also makes a delicious sauce resembling that made from apples.

Crystallized papaya cubes, if prepared carefully, make some of the best candies that can be made from tropical fruits.

The papaya plant in its different organs—trunk, leaves, blossoms and fruit—contains a milky juice, the active principle of which is called papain, a chemical closely related, in its action, to animal pepsin, and used



A Bearing Tree.

month of the year and supplies the table when other fruit is scarce.

So far as the writer knows, only two attempts have been made in Florida to plant papayas on a commercial scale. Mr. Sam Fisher planted at Little River, Dade county, five acres of papayas, from which he obtained considerable quantities of fruit and papain. Unfortunately, the exceptional frost of 1917 ended his experiments.

Another plantation, started on an even larger scale and under very favorable conditions, resulted in total failure, due to gross mismanagement.

If scientific methods are applied to growing papayas, it will prove a very

THE CITRUS INDUSTRY

Five

successfully as a remedy for a number of ailments, such as dyspepsia. Since the digestive properties of papain became better understood, it has attracted an ever-increasing demand. Before the outbreak of the war most of the papain used for medicinal purposes was imported from India, and when the price went up to \$25 per pound, complaints became numerous that it was adulterated.

The digestive properties of the papain are well recognized by the natives of India, who wrap papaya leaves around a piece of meat in order to make it tender.

Especially the unripe fruit contains an abundance of papain juice, which flows freely and is collected at the surface when the skin of the fruit is lightly scored with a knife.

The scoring may be done several times before the fruit is picked and does not seem to interfere with the eating qualities of the fruit, although the scores appearing on the surface as a result of the bleeding make the fruit unsightly and therefore harder to sell.

The total sugar content of the ripe papaya differs according to variety and season. Usually it exceeds 10 per cent and is principally found in the form of invert sugar.

Soils

The papaya is adapted to a wide range of soil types, from heavy clay to light sand. It grows most luxuriantly in hammock and muck soils. In preparing the soil it must be remembered that the papaya is a gross feeder, whose native home is in the jungle, where organic matter is plentiful and continually renewed.

Thorough drainage and aeration of the soil are essential to successful papaya culture. A soil that is waterlogged and into which the air cannot enter does not offer suitable conditions for the growth of friendly soil bacteria that change the complex compounds of the soil into such forms as can be assimilated by the plants.

The papaya is very susceptible to soil acidity, hence, if the soil is acid it should be limed.

The open, porous pineland soils of the lower east coast are well suited to growing the papaya, if reinforced with humus and commercial fertilizers. Superabundance of plant food and a fair supply of moisture force it to grow rapidly, and the quicker the tree grows the more delicate is the fruit.

Fertilizers

The papaya tree has a proportionately large root system and is a heavy

feeder. Naturally, it responds to good treatment as do other plants, but it responds much more quickly than most of them. In order to be able to grow rapidly it must find in the soil a constant supply of available plant food.

Shortly after the plants are set out, ammonia should predominate in the fertilizer, such organic sources as blood, tankage, guano and castor pomace being best.

Later applications of commercial fertilizer should contain a relatively high percentage of potash, which constituent exerts a very beneficial effect on the flavor of the fruit. It is



Fruit wrapped in cheese cloth to protect it against papaya fly.

preferable to use sulphate of potash. Chlorine-containing sources of potash, such as kainit, muriate or manure salt should be avoided unless plenty of water is provided for the trees. If there is not sufficient moisture, the chlorine accumulates in the soil and may have a depressing effect on certain nitrifying bacteria that aid in the decay of organic matter and make it available for the plants.

Stable and chicken manure not only furnish excellent nutriment to the papayas, but they also induce favorable bacterial activity and raise the moisture-holding capacity of the soil.

Problems of Propagation

Papayas are propagated by cuttings and by seed. A cutting reproduces the character of the plant from which it was taken, while seed does not always do so.

It is a decided disadvantage of the papaya that it does not come true to seed, and one might be inclined to believe that the law commonly observed in nature, that like produces like, does not apply in this case. During experiments which I conducted in order to breed better varieties, I took care that the transference of pollen from one flower to another was done in strict accordance with the teachings of the science of plant breeding, yet I was more than once surprised to find that a great number of varieties, differing in size from a cantaloupe to a watermelon, were produced from seed of the same fruit.

Seed Bed

In south Florida, papaya seed may be sown at any time during the year, while in the central part of the state, they should be sown early in January in order to have some of the fruit mature before the following winter.

Prepare the seed bed thoroughly by incorporating a goodly quantity of humus, and keep the soil in a friable mellow condition. Flat boxes may be used, containing about four inches of soil underlaid with some charcoal.

Plant the seeds in rows four inches apart and leave about the same distance between the single seeds in the rows. Cover the seed with porous soil not more than one-half inch deep.

Keep the seed bed moist but not wet, and protect it during the night against possible frost.

In about a week the seed begins to sprout. Three weeks later the young plants will have attained a height of about four inches, and are ready to be transplanted to flower pots or other suitable containers. Tin cans, such as those sold with evaporated milk, are excellently adapted for this purpose.

Remove the top and bottom of the cans by placing them in an open fire. After they have remained there for a few minutes, touch them lightly and the top and bottom will come off readily. Then place the remaining cylinders on the ground, fill them with good soil and into them the young plants removed from the nursery.

Tin cans from which only the top has been removed are not suitable, since they would not afford sufficient drainage, and would create acid conditions of the soil. Care should be taken that the roots of the young plants are not disturbed.

Planting

When the young papayas are about 10 inches high, transplant them to the open field. If tin cans are used it is not necessary to remove them;

the roots will easily penetrate through the walls and the oxide of iron seems to be very beneficial.

If planting on sandy soil, make holes two feet in diameter and one foot deep. Fill these with well-rotted compost and allow to settle for several days.

Plant the papayas eight feet apart. Do not set the young plants deeper in the soil than they stood in the seed bed. They are very susceptible to standing water and rot off at the base if water collects around the trunk.

After the plants are removed to the open field, they should be protected against the rays of the hot sun, for which purpose old bean hampers may be used.

While it is advisable to replant the young seedlings before they are more than one foot high, even large trees—from five to six feet high—may be transplanted if they are taken up with a large ball of earth, and if all large leaves are removed.

After transplanting, the young trees should be watered frequently until they have become well established. Without an adequate supply of moisture, the plants wilt and drop their leaves and will fruit prematurely.

While the plants are young, a mulch should be kept around them, consisting of leaf mold or litter. This will not only check evaporation, but also create conditions favorable for nitrification. Later, when the leaves afford sufficient shade, the mulch may be disposed of and the remnants incorporated into the soil.

After the papayas have rooted well, few difficulties will be encountered, and growth will be so rapid that one will be able to note its progress almost daily.

In frost-protected locations the papaya seed is sometimes dropped direct in the places where the trees are desired to grow. If three or four seeds are placed in the hill, the weaker plants and males may be eliminated later.

In the Papaya Orchard

The first blossoms appear about two months after planting, and flowering and fruiting go on almost continuously. If properly cared for, the papaya will yield considerable fruit during the first year. The size of the fruit varies according to the variety. Usually a tree produces fruit of the same form, its size shrinking gradually as the tree gets older. Some fruits are not much larger than a pear, while others reach even a length of three feet and a weight of 30 pounds. They vary in shape from

spherical to cylindrical.

The papaya fruit has a thin skin. The flesh which, before maturity, is white, later turning to a deep orange in color, is from one to three inches in thickness. Inside of this is a cavity which, attached to its wall, contains numerous grayish-black wrinkled seeds, the size of a small pea.

The papaya tree characteristically consists of a single trunk, bearing dark green, deeply-lobed leaves, sometimes two feet across and fastened on hollow petioles several feet long. The leaves are so arranged that they appear like an umbrella shading the fruit, which is closely clustered near the top.

The leaves, as they grow older, turn yellow and drop to the ground, leaving conspicuous scars on the trunk. If developed undisturbed, the trunk has no lateral branches. When a tree has grown so tall that it becomes inconvenient to gather the fruit, the trunk may be cut a few feet above the ground, and this will soon grow a number of sprouts that will later bear fruit like the mother plant.

Sometimes a tree will bear too many fruits, which all remain small. Thinning the fruit is then advisable, and should be done as early as possible.

A slight frost will usually kill the papaya down to the root. If the lower part of the trunk is banked with soil, and the upper end cut off in time to prevent further decay, the root may develop several sprouts.

Frost causes the papain to collect on the surface of the fruit. Frosted fruit is not palatable, being tasteless and insipid.

As a rule, the tree is at its best at its second year from planting.

Grafting

The papaya is dioecious in character, i. e., staminate and pistillate, or male and female flowers are produced by separate trees.

The female flower is usually solitary or in few-flowered corymbs, while the male flowers, which have a very fragrant odor, are produced on pendent racemes, several feet in length.

In order to produce perfect fruit, the female flowers must be pollinized with pollen from the male flowers. This cross-pollination is accomplished by insects which carry the pollen from the male to the female flower.

A few male plants—say 5 per cent out of the total number in the orchard—are sufficient to perfect pollination. Unfortunately, there are usually more male than female plants,

but the sex cannot be decided until the blossoms appear, which is some time after the papayas are planted.

From the standpoint of the grower, the male plants must be considered drones, but he can make them pay rent for the place they occupy, by grafting into them female scions in the following manner:

Behead a female tree. In a few weeks it will send out several sprouts, which, when they are a few inches long, should be cut off and sharpened at their lower ends into the form of a wedge. Now behead your male papaya trees and split their trunks trans-vertically with a sharp knife. Insert into the resulting clefts the female scions and tie firmly with a piece of twine. Remove all but the heart leaves from the scions and shade the grafted plants until the union of the scion and the stock have been perfected; then remove the twine.

Although preferable, it is not necessary that the stock and the scion be of the same size, but the scion should not be larger than the stock.

Pests and Diseases

There are two pests that threaten the papaya, i. e., the papaya fruit fly and the papaya leaf blight or leaf-spot, a disease of fungous origin.

The female of the papaya fruit fly inserts her eggs into the young immature fruits by means of a long ovipositor. The young larvae first feed on the seeds, but later on work into the flesh, causing the dropping of the fruit or making it unfit for human consumption. It is, therefore, advisable to only propagate varieties having very thick flesh, so that the eggs cannot be deposited in the seed cavity; as the young larvae cannot live in the flesh, they die, and the wounds heal over. The writer has had excellent results by covering the young fruits with bags made of cheese-cloth, until they have grown and are thick-fleshed enough to be immune from the fly.

The papaya leaf blight or leaf-spot, although previously observed in the West Indies, has only recently been reported as existent in Florida. This fungous disease attacks the foliage, forming on the under-surface of the infested leaf, black pustular spots which are slightly raised above the leaf tissues. The infested areas appear on the upper side of the leaves as brown, distinctly outlined spots. In the black masses on the under-surface of the leaf are found the spores of the fungus, which, carried by wind or insects, spread the disease. A severe attack may cause

complete defoliation and the death of the tree.

If discovered in time, the disease may be controlled by thoroughly spraying with 3-3-50 Bordeaux Mixture. Both upper and under side of the leaves should be thoroughly covered with the spray in order to kill all spores produced and protect the new leaves against infection. It will be necessary to repeat the spraying three or four times at intervals of about 10 days. It is also advisable to remove and destroy all severely infected leaves and spray the remaining foliage at weekly intervals until the disease has disappeared. In case of a severe attack on young trees, it will be more economical to remove them and plant new ones.

There are few scale insects found on papayas that are troublesome to the orchardist.

Yield and Market

Papayas respond very quickly to good treatment. During the first two years a healthy tree will yield a hundred fruits or more, having a total weight of about 300 pounds.

At present the demand for this wholesome, delicate, delicious fruit is much greater than the supply and the retail price is from 10 to 15 cents per pound.

Most varieties turn golden yellow during ripening, while others remain green.

If it is desired to ship them, they should be picked before fully ripe, and packed carefully in excelsior.

The commercial possibilities of papaya culture are somewhat limited because it is not safe to ship the fruit a great distance without icing it properly. However, on several occasions I have shipped papayas as far north as New York, the shipments arriving in good condition and selling at a very handsome price.

The ripe papaya endures cold storage exceptionally well. Even after two months in cold storage the characteristic flavor will have been retained almost perfectly.

It is not to be expected that papayas will be an economic factor of prime importance, yet, with improved transportation and with a wider familiarity with the merits of this delicious fruit, the northern markets should offer good opportunities. At least every home garden and citrus grove in south Florida should possess a few papaya trees, picturesque as well as useful.

18th Amendment

A friend of mine called Creamer, or some such name, who I believe is some sort of prohibition enforcement

commissioner with headquarters somewhere around the national capitol, has advised me of the splendid beverage that can be manufactured from the papaya. Far be it from me, however, to experiment along such lines. My only reason for mentioning the matter is to caution my friends and the general public against attempting to make this delightful drink, because it has very intoxicating effects. I must request my readers to refrain from asking me for the proper recipe, and to be satisfied with using the papaya as a fruit and for marmalade, pickling and candy purposes.

AMERICAN FRUIT GROWERS, INC. ACTIVE IN DADE COUNTY

From Miami comes the report that the American Fruit Growers Inc., Orlando, Florida, will be one of the largest distributors of grapefruit from Dade County this season.

The accounts handled by the American from this section constitute the finest early matured grapefruit in the state, and will be shipped under the following well known brands: P. & R. and Coral Reefer from Cocoanut Grove, Egret from Kendall, Pullman from Homestead and a considerable volume under the Tiger and Paradise brands.

Among the largest accounts which the American is handling are the Florida East Coast Growers Association, Merrick & Rice, R. H. Hull, Ye Friendly Groves and W. T. Carter.

Arrangements have been affected for the temporary use of the Florida East Coast Growers' Association offices during the shipping season. Mr. Bruce Floyd will be in charge of the office during the early part of the season.

5,000 TREES DAILY FOR TEMPLETOWN

Five thousand citrus trees a day is the planting outlined by Manager M. G. Campbell of Templetown during the month of December, when it is Mr. Campbell's hope to put at least 134,000 trees into the soil. More than that, they will all be Temple oranges, scions of that magnificent fruit discovered on the home-place of William Chase Temple, near Winter Park, a few years ago, which old citrus men say will mark a new era in fruit marketing in this state when the big, new plantings come into bearing. The orange is a very pretty fruit, colored much like a tangerine, and with a semi-loose skin, not so

loose as a tangerine, but loose enough, so that it will peel easily.

May 20, 1920, ground was broken at Templetown, the name of the great grove, a few miles from Lake Wales. It was in the midst of virgin forest, but things were done on a big scale and 1,320 acres of ground were cleaned as bare as the top of a table by winter. Not only that, but 66,000 Temple trees were planted last season. The balance, 134,000 trees, are to be put in the ground this winter.

The great grove is owned by August Hecksher of New York City, one of the colony of millionaires who make their winter home at Iron Mountain. It is Mr. Hecksher's intention to make the great grove an endowment for an orphan asylum, of which he is the main support in New York City. A bill, put through the New York legislature in February, allows the formation of the Hecksher Foundation for Children. The asylum will have a great endowment, old citrus men say, for Templetown will be one of the first producers of Temple oranges on a commercial scale, and the fruit should have a great market value.

CITRUS SEMINAR OCTOBER 4-5

The twelfth annual Citrus Seminar, given under the auspices of the Agricultural Extension Division of the College of Agriculture, University of Florida, will be held on the University campus, October 4-5.

This annual gathering is for the purpose of bringing together scientists and practical growers for a heart-to-heart discussion of problems vital to the citrus industry. The scientists are of the university's research and teaching staffs and others. The program has been arranged with an idea of bringing out the most pertinent questions confronting the growers of citrus. This program will be announced later.

EDGEWOOD BRAND TO BE MARKETED BY THE AMERICAN FRUIT GROWERS INC.

The Edgewood brand, packed by J. P. Mace & Son, Lake Helen, Florida, will be distributed this season by the American Fruit Growers Inc., thereby adding another high class account to those already handled by this organization.

The fruit going out under this brand comes from the high rolling land in the vicinity of Lake Helen. It is of exceptionally good quality and fine flavor. The varieties include pineapple, Jaffa and Valencia oranges, tangerines and grapefruit.

The Citrus Industry

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WATER TRANSPORTATION

THE CITRUS INDUSTRY hopes to see some tangible results grow out of the recent meetings of fruit and vegetable growers held in Tampa with a view to securing a practical solution of the problem of shipping Florida fruits and vegetables by water to the Northern and Eastern markets.

That present rail rates on Florida products are almost prohibitive, and in many cases absolutely so, no one in touch with the situation will attempt to deny. That the growers must receive some concessions from the railroads, either in the way of a permanent reduction or a temporary "emergency" rate, or else find some other means of placing their products on the market, is equally clear. Without some means of placing Florida fruits on the Northern markets at a lower rate than now prevails, it is certain that a large percentage of the present crop will remain to rot on the trees.

Relief, if relief is to be had, seems to lie in the direction of water transportation. How best to secure this is the problem to be solved. And right here is where the growers appear to be divided. Whether to attempt some arrangement with the Mallory or other water line now operating, as some prefer; to purchase a fleet of small steamers, as suggested by Philip Shore; or to charter a single tramp vessel, as favored by Mr. Crum, is the nut which the growers must crack.

But whatever the particular method of operation decided upon, The Citrus Industry hopes to see the plan backed up by the growers until the success or failure of the venture is determined. If properly backed, we believe that success would be achieved.

It is claimed by those in close touch with marketing and distribution problems, that approximately one-third of the Florida citrus crop is consumed in markets which can be reached directly by water transportation. If this estimate is even approximately correct, the diversion of this percentage of the Florida citrus crop to water routes should afford a great measure of relief from the present excessive all-rail rates and should operate eventually to reduce the rail rate to an equitable basis or to assure the permanency of the water routes.

It is to be hoped that the committee now in charge of the preliminary investigations may be able to devise some means of water transportation which will afford relief to the growers during the present season, but if this is to be accomplished, the growers themselves must stand ready to back up the committee in its recommenda-

tions. Mere talk about water transportation will not solve the problem. There must be action—united action—prompt action.

A PROMISING "SIDE CROP"

DR. PETERSEN'S paper, "Papayas, the Fruit of Promise," is most excellently written, and to our knowledge is the most comprehensive paper that has ever been issued on this subject. In its preparation the doctor has rendered a real service to the community.

This fruit of excellent flavor and of important advantages has too long been neglected in this country, and we hope that by the publication of this article, growers in Florida will hasten to make redemption for the long neglect of which they have been guilty, by planting this most delicious and very profitable fruit on an extensive scale.

Citrus growers have found that they can profitably combine the culture of papayas with the production of citrus fruits, without neglecting or in any manner injuring their main line.

ISLE OF PINES WAKING UP

THAT the growers of the Isle of Pines are beginning to appreciate the value of uniformity and care in the packing of grapefruit is evidenced by the following from The Appeal, a newspaper published on the island:

"It is reported, on good authority, that the early crop of citrus fruits from south Florida will be very small. They have had but little rain in that section, therefore the trees have not borne as they should. We have had plenty of rain on the Isle of Pines, and all indications point to a record crop of superior fruit here, which we expect to ship to the markets of the United States. The big question with us is: Will we pack uniformly and properly so that our fruit will reach the markets in prime condition, or will we allow our shipments to go out in a slovenly manner and be kicked about with contempt by the northern merchants? It's a matter entirely up to you."

While The Appeal has evidently been misinformed as to the condition of the citrus crop in south Florida, where the crop will be up to the usual standard in both quality and quantity, we pass over that erroneous statement to note the bigger item in the above quotation.

If grapefruit growers of the Isle of Pines are really waking up to the possibilities open to them from adopting a better method of packing, they stand to attain much greater profits than heretofore from the shipment of early fruit to the northern markets.

This is a movement which means beneficial results to all concerned. The Isle of Pines grower will receive greater returns from his crop, the consumer of early grapefruit will get better fruit, and the Florida producer will benefit by the elimination of poorly packed and poorly handled grapefruit in the markets of the North.

The haphazard methods of packing and shipping which have been in vogue in the Isle of Pines have done much to prejudice the consumer against early grapefruit, a prejudice which has not been confined to the Isle of Pines product, but which has had its effect in casting suspicion on the early shipments from Florida as well.

The proposed reform is one in which everyone stands to gain and no one to lose by the proper preparation and shipment of the Isle of Pines fruit.

Not a greater variety of citrus fruits, but a better quality of the established varieties, is the crying need of the citrus industry.

WHAT DO YOU KNOW ABOUT A TREE?

DO you know that something like five thousand full grown trees go into the waste basket of the country every day? Do you know that the annual consumption of newsprint would make a two-foot strip of newspaper reaching forty million miles or half way to the sun? The war left us in a state of mind whereby no set of figures could stump us or give us pause until this statement from the American Forestry association about the forest situation came along and we must admit that it takes "some trees" to keep industry going in this country.

The tree is a lifetime proposition. A hurricane wiped out millions of them in the west the other day. A forest fire cut a swath in Canada recently and consumed trees that would have kept many factories going. The forestry association is working for a national forest policy which includes better fire protection methods. It also wants us to get better acquainted with trees.

The time has come when we must grow timber. Under the pressure of necessity we must make the best of the knowledge we have of methods, imperfect though that knowledge may be. The handling and perpetuation of our forests in the last analysis must, however, rest on a solid foundation of careful and thorough forest investigations. Too few people today realize the value and importance of agricultural experiment stations in furthering the interests of the farmer and showing the way to more scientific and more profitable farming.

An even smaller number recognize as yet that forestry as a pursuit, closely resembling agriculture, can be furthered in much the same way. Results are obtained with farm crops in one, or at most, two or three years. It takes only a few years to produce new varieties of farm crops, and the farmer obtains the first year an increased return from the use of scientific methods developed by the experiment stations. If investigations in agriculture are important under these circumstances when the mistake of one season may be corrected the next, how much more important, the association says, it is that the growing of trees, involving decades or perhaps a century, should be scientifically conducted and that experiments along this line, also requiring very long periods, should be initiated at once? One may not hope to plant a tree and also see it ready to cut for lumber. All the more reason, then, why the person who starts the business should have a clear, scientific understanding of what the results are likely to be.

"THE FARMER MUST KNOW"

REV. GEORGE T. GRUMAN, rector of All Saints' Episcopal Church, Fulton, N. Y., has been doing some thinking along the line of present-day legislation and legislative propaganda. He sums up the result of his meditations as follows:

"The farmer is one of the greatest factors in American civilization. A great mistake is made when certain legislators and paid lobbyists think that their schemes of reform, etc., can go through without consulting and advising with the farmer. Failure to take the farmer into their confidence and explain their propaganda means that these gentlemen are fast preparing a noose for their own undoing. There has been too much of the spirit of 'putting it over' on the agriculturist. The farmer must and shall know about all legislation and reform laws which will affect him even more than the city dweller, or America will wake up with one of the biggest headaches it ever has had. The farmer must know."

To which thought every well wisher of agriculture and horticulture in the United States should say, "Amen!"

MONEY IN CORDWOOD

AT this time, when farmers are getting abnormally low prices for their products, it behooves them to seek new means of increasing their incomes. A more intensive search for the elusive dollar in the rural districts has resulted in an important discovery—the real value of the farm wood lot.

Firewood has long been looked upon by the average farmer as little more than the means of winter comfort. Until necessity commanded, the great wealth of firewood that is found on nearly every farm, was seldom considered in the light of a crop—much less a crop from which splendid profits could be gained.

Higher coal prices and threatened coal shortages which have created a growing demand for wood for fuel, together with the advent of an improved engine-driven log saw that makes wood-cutting cheap and easy, has opened the eyes of farmers and caused them to realize that their firewood is a real and valuable crop. So the wise ones are harvesting this crop—and gathering in the profits.

With the old hard-pushing, slow-cutting cross-cut or buck saw, cutting and selling wood was the hardest of work, with only moderate remuneration. But with an improved engine-driven log saw, such as now can be bought for a very moderate price, this once hard job becomes an easy one and highly profitable.

A recent survey shows that many log saw owners are substantially increasing their income by sawing for neighbors and selling wood in towns and cities during spare time. Others are giving their entire time to sawing and selling wood and their profits are said to be large.

This moderate outfit, driven by a four horse-power engine, falls trees, saws up logs into any lengths and cuts up limbs and branches at an amazingly rapid rate. The operator is relieved of all hard work, while it does more work than many men cutting the old way. Light in weight, these log saws can be wheeled into timber, marshes, brush and other places where the heavy drag saw could not be taken.

The man who invests in one of these modern log saws really gets much more than the name implies. When not sawing, the engine is used as a portable power plant for running feed grinders, hullers, shellers, pumps, washing machines, and for other power jobs. In this way it serves as a labor and time saver the year 'round.

Elsewhere in this issue will be found an article by Mr. George T. Tippin, dealing with the present and future outlook for the citrus industry in Florida. Mr. Tippin takes rather an extreme view, but it must be confessed that it is one which is fast gaining ground among the growers of the state. That the man who produces food products from the soil must be given an equal consideration with the man who labors in the factory and the one who carries his product to the distributing markets is a view which is fast crystallizing among the agriculturists of the land.

Miami's municipal market has proven a source of much profit to local citrus growers, supplying a home market for much fruit which formerly was wasted or sold at a loss.

The Gypsum Industries Association has issued an attractive little folder telling how "Agricultural Gypsum Holds Nitrogen." This valuable folder may be had for the asking by addressing The Gypsum Industries Association, Chicago, Illinois.

fertilize for Heavy Spring Bloom

By J. G. Grossenbacher, in *Citrus Leaf* No. 10

Probably the best and most general practice in fertilizing bearing groves in Florida is to make three applications per year—in spring, mid-summer and fall. Non-bearing groves are commonly fertilized three to four times. Trees set two years or less usually get four applications and the older ones only three.

Non-Bearing Trees

These should have the last application early enough to permit trees to make a good growth and have time to mature it by the first or middle of November. If this application is made between the first and twentieth of September, growth is usually well matured by the last of October, provided cultivation is stopped by late September.

The formula most applicable for that age tree in fall is a 3-8-5, in which a considerable portion of the phosphoric acid is derived from ground steamed bone and the balance from acid phosphate. The bone also furnishes a large proportion of the ammonia. The shortage in the ammonia to be derived from about equal parts of nitrate of soda and sulphate of ammonia.

The amount per tree should vary in accordance with their size and age. Spring or summer set trees should have from a half pound to a pound each; those set two years from two to two and one-half pounds; three-year trees about four to four and one-half pounds; and those in a grove set four years should have about five pounds if on sour stock; but if on rough lemon and of large size, it probably would be better to withhold fertilization till in November. In other words, these should be treated like bearing groves, as far as fertilization is concerned. Trees on sour stock or undersized trees on rough lemon stock are more profitably given the first November application after they have been set five years.

In spreading fertilizer about young trees it is desirable to know the extent of the root spread of the larger ones, so that those making the application may be sure to make the circles at least as wide as the roots extend or a little wider. In that way the entire root system absorbs soil solution from fertilized land and thus gives trees the proper soil conditions for making the best possible early

fall growth.

The fertilizer should be very thoroughly worked into the soil with both hand and power tools. The strips to receive this cultivation should extend out at least a foot farther than the widest fertilizer circles.

Bearing Trees

Normal bearing groves should usually get the fall application after the trees have become dormant, and thus avoid the possibility of stimulating growth, thereby reserving the fertility for food storage during the dormant months of December and January. Usually dormancy begins about the middle of November, thus showing that the latter half of that month is probably the best time to spread this fertilizer.

Owing to the fact that soil organisms which are largely responsible for the disintegration or elaboration of non-soluble fertilizers are much less active in the dormant or winter months, it is probably wise to use a fertilizer that is made up largely of water-soluble materials, such as inorganic chemicals. In view of these conditions, it is evident that all three of the main constituents of the formula should be derived mainly or entirely from inorganic or mineral sources. The ammonia should then be derived chiefly from nitrate of soda and sulphate of ammonia, the phosphoric acid from acid phosphate, and the potash from high-grade potash salts.

The percentage composition must be determined to a large extent from the condition of the trees. For example, if trees are heavily loaded and show more or less yellow in late October, the ammonia should probably not be less than 3 per cent, while if the crop is medium to light and the trees retain good color 2 per cent is ample. According to the experience of the past four years, as well as the result of some of the tests made by the state experiment station, it seems that 8 per cent of phosphoric acid and 5 to 6 per cent potash are sufficient for normal fruiting. It seems then that the formula should be either a 3-8-5 or a 2-8-5 for use in November.

All grove experience seems to show that the ammonia end of the fertilizer formula is the most significant in its effects on trees and fruit. This not only governs the amount and

kind of growth, but also the amount of fruit to set and its size and quality. From my experience, nitrate of soda is conducive to the production of large fruit that retains its good flavor long after maturity, and sulphate of ammonia tends to produce smaller fruits with rather insipid juice. It appears, therefore, that the relative amounts of nitrate of soda and sulphate of ammonia to be used in this formula should be varied in accordance with the effects desired.

The number of pounds should vary with the size of trees, their color, and the amount of fruit that is carried. In young groves where the first November application is made, the amount should be from four and one-half to six pounds. Trees in preparation for their second bearing year, if they have a fair crop, should get from seven to 10 pounds at this time. Larger and older trees, say of medium size, need about 10 to 15 or even more pounds. Large trees require 20 to 40 pounds, depending on their size and condition.

It sometimes happens that a grower has a grove needing 3 per cent ammonia and one that should preferably have only 2 per cent. In such cases it is usually better to purchase the fertilizer with only 2 per cent ammonia and give the more needy grove more pounds per tree than usual, thus making up in pounds the shortage of the analysis.

After trees are more than six years old and of normal size, fertilizer should no longer be spread in circles about them, because on examination it is usually found that the roots from adjoining trees meet in the middles. Since it is important that all the land through which the roots go should have fertilizer in it, groves of that age and older must be entirely covered with fertilizer, the only exception being a small circle under the branches. The fertilizer should, therefore, be spread evenly over the tree middles beginning from under the outer branches. This can usually be done most easily by having the men apply the quantity for one tree in each square between four adjoining trees. That gives the amount for one tree to a quarter of each of four trees.

After the roots of trees have met in the middles, it is usually undesirable to reduce the amount of fertil-

izer for a particular tree because the roots of the surrounding trees also forage in that soil. Unless the different sized trees are in groups, such groves should be treated as a whole.

If plowing is made a part of grove practice, the grove should be plowed in late fall, either just before or immediately after the November fertilization. If tractors or tandem disks are available, it is more profitable to use the disk to work in the fertilizer and omit plowing. In either case, however, the acme or harrow should follow to smooth up the land.

Most growers know that the green leaves of plants in connection with sunlight function as the stomach in animals, in that the raw food absorbed from the soil and the carbon dioxide derived from the air are digested in the leaves and transferred to sugars and starches. Since our grove trees are evergreen, or have leaves throughout the year, they necessarily digest food continuously while the sun shines. While the trees are actively growing or developing fruit, this digested food is continuously being carried to the growing points from the leaves. After growth ceases the digested food is no longer used immediately, and is, therefore, stored in the outer wood and bark in the form of starch and sugar, ready for use at the beginning of the next vegetative period.

In delaying the fall fertilization of a bearing grove until the trees are dormant, the food digested during the dormant period is used for the maintenance of the crop on trees and the balance is stored for the spring flush and bloom. Most growers have learned by experience that the fall fertilization practically determines the amount of the spring bloom, provided there is present the suitable wood for holding it. Make the fall application both liberal and timely, so as to insure a good spring bloom.

BEAUTIFUL LEMONS

One of the most enthusiastic boosters for Florida is B. F. Cleveland, of Taft, who yesterday dropped into the Sentinel office with samples of his new lemons which are now being produced in increasing quantities. The lemons come from four year old trees, three of which are now bearing. The specimens brought to the Sentinel yesterday were beauties and show that the industry can be developed to a high point. He has five hundred small lemons in his nursery.—Orlando Sentinel.

Will Advertise "Blue Goose" Quality Fruits.

A comprehensive campaign to increase the already large demand for Blue Goose citrus fruits will be inaugurated by the American Fruit Growers Incorporated early this fall and will continue through the citrus shipping season.

This campaign is of particular interest to Florida shippers because it is the high quality of Florida citrus fruit shipped under the Blue Goose trademark that has made that mark a familiar one to high class buyers in the large markets of the North.

The American Fruit Growers Incorporated will advertise its Blue Goose citrus by means of newspapers, billboards, posters and by direct mail and personal contact with retailers, jobbers and ultimate consumers.

The keynote of all this advertising will be that any citrus fruit packed under the Blue Goose trademark can be bought with full confidence on the part of the buyer that he is getting high quality. The public has already been favorably impressed by the line of Blue Goose fruits put out in the past and the advertising campaign conducted in the principal markets on Blue Goose cantaloupes proved a striking success.

One of the important advertising mediums to be used in this Blue Goose advertising campaign will be a large poster which will be displayed at the stations of the Interboro Rapid Transit system, the Elevated and Subway of New York. There are more than 2,900,000 fares collected on these railways every day. Posters will be used also in the stations of the Chicago Elevated system, where 1,106,000 fares are collected daily.

A very remarkable fact revealed in the investigation of the Chicago market by the American Fruit Growers Incorporated advertising department is that 80 per cent of the highest class retailers of Chicago had located their stores in those parts of the city served by this Elevated system.

There are distinctive features also to the newspaper advertising of the American Fruit Growers Incorporated. Advertising men in particular are interested in the technique displayed here. The advertisements are of all sizes and each one of them is hand lettered. They are remarkable specimens of advertising art in that they can be reproduced by any of the known methods of reproducing type,

such as matrices, electrotypes, stereotypes, and in the reproduction, even though done in the crudest manner, there is scarcely any danger of the advertising being marred. Each advertisement stresses just one dominant fact about Blue Goose citrus.

These advertisements were produced by N. W. Ayer & Son of Philadelphia, known to national advertisers throughout America as "advertising headquarters."

A large quantity of display material or dealers' helps is being prepared for distribution to the trade. Hangers, window tackers, signs, posters and window strips will be used. Practically all of this display material will be prepared in seven colors, the fruit being reproduced in its natural color.

Plans are being worked out by the advertising department of the American Fruit Growers Incorporated to eliminate the waste in distribution of dealers' helps which has been so characteristic of advertising in the fruit and vegetable industry in the past.

The experience of Frank L. Skelly, sales manager of the American Fruit Growers Incorporated in Florida, has been heavily drawn upon by the American Fruit Growers' advertising department and N. W. Ayer & Son in the preparation of this citrus campaign.

TRAINED HORTICULTURIST COMES TO FLORIDA

One department of instruction in the College of Agriculture, University of Florida, has been given relief because of the slightly increased appropriation for instruction proper made by the last legislature. E. L. Lord, a graduate of Cornell University, who has had twelve years' experience in teaching in Texas and Louisiana, comes to the Florida agricultural college to be assistant professor of botany and horticulture.

Professor Lord is a native of New York. He received his early training in the grade and high schools of Syracuse. After graduating at Cornell he spent several months on post-graduate work. He has studied under Dr. H. J. Webber, an educator well known throughout the country.

The University is extremely fortunate in being able to secure the services of a man so well trained in his particular field.

The Florida Citrus Crop of 1921

By George T. Tippin, Vero, Fla.

The conditions of the citrus crop of Florida up to the present time indicates a crop equal to the crop last year from the same bearing acreage with the addition of young groves' first crops may bring the total up to around 15,000,000 boxes.

I have visited most all the citrus sections of the state, have made careful inquiry as to the crop compared with last year and find the consensus of opinion to be as here indicated. The government report August 1st shows conditions of oranges as 86 per cent for 1921 and 89 per cent for 1920; grapefruit, 86 per cent for 1921 and 80 per cent for 1920, indicating the orange crop to be 3 per cent below 1920, while the grapefruit crop is 6 per cent above 1920, or, on the whole, very nearly the same. The government report for California for oranges gives 86 per cent for 1921 and 84 per cent for 1920; a slight increase of 2 per cent.

Under normal conditions, with the small increase in the citrus crop, we should reasonably expect better prices than last year, for the reason that the deciduous fruit crop of the country is the smallest in volume for many years, as shown by the government report of August 1st. The apple crop is less than 50 per cent of last year, or 134,000,000 bushels short. The peach crop 12,000,000 short and the pears 8,000,000 short of last year, while the grape crop of California, including the raisin grapes, is 30 per cent short of 1920's crop.

It will be seen from these figures that the entire crop of orange and grapefruit of Florida and California reduced to bushels would make up less than one-half the shortage in the apple crop alone, to say nothing about the 20,000,000 bushels shortage of peaches, pears and the hundreds of tons of grapes. Apples will be so scarce that but few will buy them and buy oranges instead. This will be true with the great mass of consumers, provided there is any marked return to normal conditions by the time the crop begins to move.

The demand for citrus fruit this year should be much better than last year and will be unless the unemployment of labor in the north and business inactivity throughout the country continues. If these conditions are to continue throughout the marketing season, they must be set over

against the advantages coming to the citrus grower by reason of the short deciduous fruit crop of the country, because demand will be lessened proportionately, demand being governed by ability to buy.

On discussing the matter of freight rates on Florida citrus fruit and other products, being a farmer and fruit grower, I must admit that I am too much of a hayseed to understand the process of reasoning of the interstate commerce commission by which we were denied the reduction of rates unless they consider that production and people engaged in producing food products are outside the field of commerce over which they have jurisdiction, but that after products are delivered to the transportation companies, it becomes commerce and they proceed to regulate charges so as to guarantee transportation and those interested in commercial trafficking in the necessities of life a certain per cent profit on their investment, watered stock and all, upon the theory that the production of food and clothing supplies will continue to be produced at a loss in order to keep everything functioning in the commercial cycle, but it is not going to be done by a darn sight—and the boys behind the plow and who wield the hoe won't be to blame when the whole commercial institution blows up because it has no water in the boiler. A hungry stomach without any food in it will go to the devil just as quick as a boiler will blow up without water.

No, boys, as long as we could get a little profit over cost for our surplus, we have kept supplying the fuel to keep the great commercial machinery going, but since the fellow at the top is guaranteed his dividend and profit, while we, in the language of old Vanderbilt, "be damned," meaning the folks, it may be the shortest way to the solution of the whole matter to retire to a safe distance without creating any disturbance by strikes, lockouts, boycotts or class legislation and let the great machine of self-interest, with its paid statesmanship, blow up. Maybe when some of the Wise Acres have to come to the back door of a log cabin on the farm for a handout, they will have learned that in building the structure of state to be permanent, it is as absolutely necessary to build from the foundation

up, which is the soil, the source of all wealth, as it is to start with the foundation of a permanent building. Better and wiser judgment, in my very humble clodhopper opinion, would be to strengthen the foundation of the whole structure in such a way as to make it possible for the producer to receive a fair price for his labor, in order to keep up the surplus necessary to keep all the machinery in operation.

Mr. Henry C. Wallace, secretary of agriculture, stated before the interstate commerce commission on August the 18th, during the hearing on rates, "that the purchasing power of a bushel of oats at the present time was only 43 per cent of the purchasing power it had from 1909 to 1914" and "that the railroads and all our people would help bear the burdens of the present depression."

With the present corn crop 200,000,000 bushels short, the wheat crop 30,000,000 bushels short, the oat crop 388,000,000 bushels short, and barley 32,000,000 bushels short, a total of 650,000,000 bushels short of the cereal crop of last year, a bushel of oats has only 43 per cent of its purchasing power compared with 1909 to 1914. Be darned if it doesn't begin to look like the imaginary tariff to help the farmer had fluked and all the citrus grower got out of it was a retaliatory tariff of 80 cents per box by the Canadian government on all citrus fruits going from the United States into Canada, leaving the market open to outside competition which has cheap labor, a low water rate, and maybe owned and operated by Americans whose brothers-in-law are interested in transportation and manufacturing on this side, for all I know, and I suspect another member of the family is very much interested in the dye embargo being continued so that all farmers' women folks and himself will have to contribute out of their necessity to the building up of a great dye manufacturing plant. I have no love for Germany, but I'll be dad-gasted if I can see any justice to the American people as a whole permitting this embargo to stand. You ask what this has to do with citrus fruit industry and the marketing of citrus crops? It has much to do with it. It means higher prices for the clothing for the family on the farm, which increases

THE CITRUS INDUSTRY

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his cost of production; it means higher prices for clothing for the families in the cities, which leaves correspondingly less of their earnings to buy food products with. It does not mean any higher price for the raw cotton or wool. Under the McKinley tariff law of 1898, cotton went to the lowest price since the civil war. The citizens whose taxes upon their income, profits and property is many thousand times more than the increased cost of what they buy, under a high protective tariff, favor reduction of taxes and raising the amount of the reduction by increasing the tariff on the necessities of life, thus lightening the load for them; but with a very large majority of the folks who have no income or profits, and only small properties in many instances to tax, the lowering of taxes and raising the cost of living by placing a high protective tariff on the necessities of life, only balances the load in many instances, while with a majority it increases the burden.

We are told through the daily press that the lowering of taxes is a wonderfully good thing right now, for the people in business, but they do not have much to say about its helping the folks. This position seems to track with the 5 per cent guarantee idea of commercialism, which would leave the folks outside the family circle as it seems to do in leaving the farmers and producers outside the commercial cycle in adjusting interest rates and profits. Now, I believe the folks are just as good as the people under the constitution which says, "All men shall be free and equal" in the pursuit of a livelihood. The increase in the burdens of government should be laid upon man's increase and not his necessities. The folks can be depended on to right many wrongs that have crept into our public affairs through selfish greed, and when they do it, some of the people will feel very shamed that they have "seen through a glass darkly," causing so much distress and sorrow.

The increase in freight rates in Florida products for 1920-21 were 67 per cent over the rates for 1917 and 1918, adding to the burden of Florida farmers \$8,000,000 or \$25 per capita for every man, woman and child engaged in production; taking the little profit that might have been left out of the business and contributing it to the guarantee of 5 per cent net earnings of the transportation companies, and we are told that it is just. This is enough to make even a nigger cuss and a mule refuse to plow.

Discussing the matter of rates a few days ago with a gentleman, he remarked that a deep waterway made of the Indian river would relieve the situation. I asked him how he would get it; he said, "have the government do it." I said, "Yes, you ask congress for an appropriation for this purpose and some pious, influential looking (well, I don't know what to call him), who owned enough railroad bonds to choke an ox, would call at the war department, shake his head a few times and say it would not be a wise thing to do from a coast defense point of view, and the thing would die a-borning." He then said, "why not have it submitted to a vote of the people?" I said that could not be done under present arrangements, but that if it could be under present conditions, all the ramifications of capital, all organized labor dependent upon them for a job, and all people out of touch and true knowledge of the burdens upon the back of agriculture would also vote against it. He then said, "why is it they can always get appropriations for reclaiming the arid lands of the Northwest by irrigation?" I said up to the present time that has been easy because the railroad member of the family would get the haul of the increased tonnage, but since the 5 per cent interest guaranteed rate was turning the traffic to the coast and around by the Panama canal, it might be different and will depend more upon the influence of those who represent them in Washington. Some of us have not forgotten the two brilliant United States senators, one a republican and one a democrat, who pussy-footed around Washington, D. C., while they were senators, in the interests of the largest financial corporations in the country and for which the people of their respective states left them at home. No doubt there are some of the same kind in Washington now.

If we cannot get any relief on freight rates on citrus fruit this season, we will have to do the best we can, and the farmers through the country likewise. In the meantime, be preparing to employ the same tactics we do on the farm when we want to smoke a skunk out of his hole—by building a fire around him. The farmers in the South will help the farmers in the North and West do the job if they want to do it.

USE FUNGUS TO CONTROL WHITEFLY

The Department of Entomology,

State Plant Board, Gainesville, Florida, advises that it is still time to use fungus in the control of the common and cloudy-winged whiteflies, both of citrus, while the period of summer rains prevails.

The department also advises that it still has available a supply of the pure cultures of the yellow aschersonia. The department is anxious to dispose of these cultures while it is still time to use the fungus.

It is believed to be good practice to always have these natural fungous enemies of the whitefly present in every grove. A culture, sufficient for an acre of trees, costs 75 cents, probably less than the cost of production and a very small outlay, considering the good it may accomplish. Do not use fungus collected in other people's groves as it might bring in new diseases or insects.

Money should accompany each order, otherwise shipments must be made c. o. d. When fungus is ordered sent by Parcels Post, postage must accompany order.

Shipping weights are: 1 culture, 2 pounds; 2 cultures, 4 pounds; 3 cultures, 5 pounds.

Make all remittances to State Plant Board and address correspondence care of Entomological Department, Gainesville, Florida. Directions are sent with each order or inquiry.

Specimens of injurious insects, especially whiteflies, are solicited for examination and recommendation, for which no charges are made.

REDUCED FREIGHT RATES TO WEST

Material reductions in freight rates on grapefruit from Florida to points in the Northwest are assured by preliminary recommendations recently issued by the Trans-Continental Freight Bureau in Chicago.

The American Fruit Growers Incorporated early in 1920 instituted proceedings through the interstate commerce commission attacking the reasonableness of existing rates and arguments were heard by the Trans-Continental Freight Bureau on March 18th of this year.

According to C. A. Stewart, traffic manager for the American, the new adjustment will result in a saving to Florida growers of 54 cents per hundred pounds or approximately \$155 per car, besides greatly broadening the distribution radius and re-opening markets which have been practically closed during the past few years by excessive transportation costs.

A Florida Soil Chemist

By George T. Tippin

In the last issue of this magazine I wrote about the impression I had gathered of Dr. J. Petersen by my contact with him and growers of Florida who are acquainted with him. At the conclusion of that article I promised to write a brief story for this issue dealing exclusively with a minor part of Dr. Petersen's scientific work.

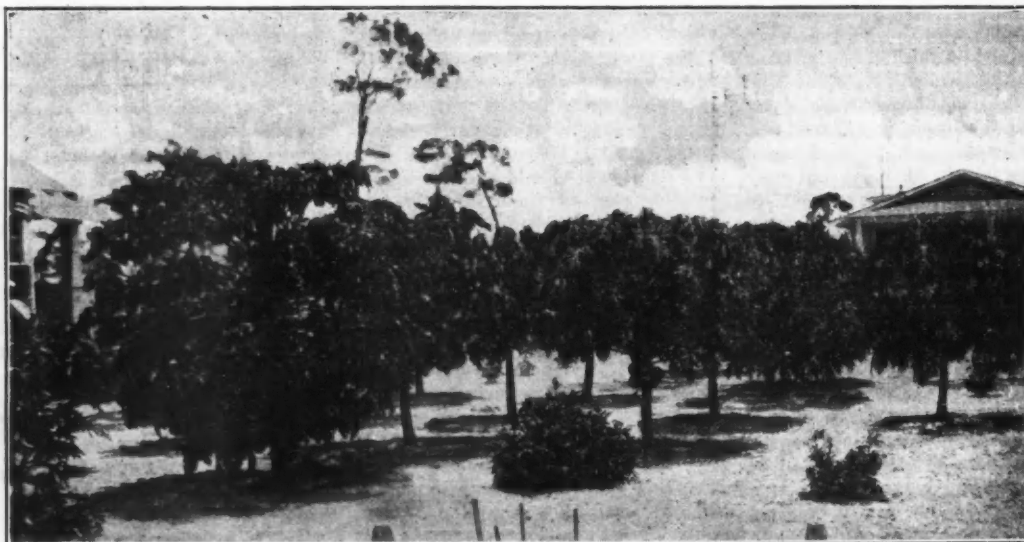
It is a peculiar coincidence that I should have prepared this article about Dr. Petersen and his experiments as regards the papaya, a subject on which the doctor himself has just compiled a most excellent paper, probably the best that has ever

months ago, four rows of papayas, for no other reason than to ascertain what are the best sources of fertilization and cultivation for these trees. A careful record was made of the daily treatment accorded each tree. All of them received the same amount of commercial fertilizer and manure, in addition to which, row number two received half an ounce, row number three, three-quarters of an ounce, and row number four, one ounce of a special mixture of chemicals which did not contain ammonia, phosphoric acid or potash.

It is appropriate for me to divert from the subject for a moment in

that are of utmost importance. I absolutely deny this. We have known for a long time and have verified this knowledge by practical tests that iron, sulphur, magnesia and manganese are of great importance, and it is of these chemicals that I compounded a mixture which I applied to the papaya trees."

The papaya trees to which the doctor applied this special mixture is really a most remarkable group. The trees in row number one, which did not receive any of the special mixture, are four feet high; the trees in row number two, which received a half ounce, are five and one-half feet



Dr. Petersen's Experimental Plot, Showing Rows Nos. 2, 3 and 4.

been issued on the subject, and which appears in another part of this publication.

The doctor's statements concerning matters scientific and his advice to growers is not theoretical; all statements and advice of his are based on knowledge obtained from practical tests in various sections of the state. Dr. Petersen has experimental stations that range in size from a lot fifty by a hundred to acreage worth many thousands of dollars. His most recent experiment has been with the papaya, a fruit about which, it is safe to say, he is better posted than any other man in Florida.

On a lot containing about 4,500 square feet, the doctor planted, five

order to transmit the information the doctor gave me about this special mixture of chemicals which brought about such wonderful results on his papaya trees.

The doctor said to me, "I believe the greatest service that I have rendered to the growers of Florida lies in my continuous and insistent advocating to the growers to help their soil create humus; and now I shall commence to advocate the use of certain chemicals that science has proven, a long time ago, to be of utmost importance; a fact which has consistently been ignored by commercial fertilizer houses. Many commercial fertilizer houses contend that ammonia, phosphoric acid and potash are the only constituents of fertilizer

high; in row number three they received three-quarters of an ounce and are six and one-half feet high, and those in row number four, that received one ounce, are eight feet high. The trees, all in all, are the most wonderful that one can possibly imagine, when it is considered that they are but five months old. All of them are of very stocky build and bear an abundance of fruit.

The special mixture of fertilizer which the doctor used he applied when the trees were one foot high.

I believe it well to call my readers' attention to the fact that I have already stated and will again repeat, that the doctor's methods are not theoretical, that they are based on

(Continued on Page 15)

Florida Development Board Corrects Erroneous Statement

The following letter from Mr. A. A. Coult, secretary of the Florida Development Board, to Mr. E. H. Faver, managing editor of the American Fruit Grower, corrects an unintentional error in the estimated increase of the Florida citrus crop in the next few years. The letter will be read with interest by all citrus factors, as it has an undoubted bearing upon the citrus situation in the state:

August 10, 1921.

Mr. E. H. Faver, Managing Editor,
American Fruit Grower,
State-Lake Bldg.,
Chicago, Ill.

Dear Sir:—The writer has received a copy of the August issue of the American Fruit Grower with special attention directed to your article entitled "Why 61% Russet?"

The Florida Development Board, a state-wide organization, working for the development of the horticultural, agricultural, recreational, industrial and live stock opportunities of Florida appreciates what you have done to give publicity to the horticultural developments in this state.

There is one statement in the quoted letter from your correspondent in Florida, which is so far out of line with the actual facts that the writer believes you will appreciate having the matter called to your attention, for your own information, in case you should have occasion to write additional articles upon this subject. Reference is made to the following which is found in the first column on page 13: "In four years Florida citrus crop, all things being equal, will be four times as large as it was last season. This is because of the many thousands of young trees coming into bearing."

If you will refer to the Florida Bulletin on Agriculture, issued by the Bureau of Census for the year 1920, you will find on page 23 under the State column the following statistics:

Oranges—Trees not of bearing age, 2,311,617; trees of bearing age, 3,645,811.

Lemons—Trees not of bearing age, 22,756; trees of bearing age, 34,176.

Grapefruit—Trees not of bearing age, 963,336; trees of bearing age, 1,681,481.

Tangerines—Trees not of bearing age, 29,770; trees of bearing age, 38,516.

As trees not of bearing age include all trees which have been set in groves, some of which will not come into full bearing for six to eight years, you can understand that the statement about four times increased production is way beyond the realm of possibilities.

As oranges and grapefruit make up about 98% of the citrus fruit crop, the total of trees not of bearing age for oranges and grapefruit is 3,274,907 compared with 5,327,292 trees of bearing age, so that we do not look for even a 100% increase in products of citrus fruits in Florida within the next four years.

This statement is not made for the purpose of criticizing your article, but to give you what we believe to be approximately accurate facts about the future citrus crop products in this state. At the same time we believe that there has been too much optimism about products of citrus fruits, not only in future years, but on the part of some speculative buyers during each year, which has had a tendency to bear down the price paid to the growers by agencies which purchased the crop at time of maturity.

The Florida Development Board has recognized for some time that when the lower grades of citrus fruit can all be profitably converted into manufactured products, it will be a step forward in stabilizing the markets for the better grades of citrus fruits and we believe that under the improved methods of manufacturing marmalade and other citrus fruit products now practised, that much of the poorer grades will be marketed at the factory in this state.

Yours truly,

FLORIDA DEVELOPMENT BOARD,
A. A. Coult, Secretary.

IT IS UNLAWFUL AND DANGEROUS

Do you ever have occasion to remove cuttings or rooted plants from your neighbor's yard to your own? You do? Well, the chances are you are unaware of the fact that you are dangerously liable to get serious insect pests or plant diseases onto your property and that you are violating an important state law.

Diseases and insects harmful to plants in the aggregate cost America a billion dollars a year. Much of this cost is borne by Floridians. Very of-

ten with good intentions we give our neighbors cuttings or rooted plants to transplant to their yards or gardens; or we may receive such from them. In either case these plants may carry some serious insect or disease. Sometimes neighbors, who had nothing to do with the transferring, suffer because the insects or diseases get onto their property.

To protect us from such losses the Florida Plant Act of 1915 was passed by our legislature. It provides that all plants must be inspected and certified before they can be moved from one property to another. This means that a man must have his yard plants, such as rose bushes, poinsettias, etc., inspected and a certificate tag attached, before he can legally give them away or remove them.

In making this law it was not the intention of the state to burden the people, but to protect them. For this reason no charge is made for the official inspection. If you desire inspection, request it considerably in advance of the time you wish to move the plants; time is necessary for inspectors to make their rounds.

The benefits to be derived from this law alone justifies its observance. Each and every movement of uninspected plants is potentially dangerous. It should be borne in mind that cuttings, budwood and scions can spread disease as well as whole plants, and that the law provides the same requirements in transferring address "Nursery Inspector, State them."

Those desiring inspection should Plant Board, Gainesville, Florida."

A FLORIDA SOIL CHEMIST

(Continued from Page 14)

knowledge gained from practical tests, and growers would gain valuable knowledge by carefully following his experiments and adopting the principles pursued by the doctor.

There is no question but that Dr. Petersen has rendered distinguished services to the entire state in his consistent advocacy of humus, to which important factor he has now added such chemicals as are not widely recognized as being essential and important; such as magnesia, manganese, iron and sulphur, particularly the latter, which plays an important role in plant nutrition, especially when inoculated with certain bacteria.

Says Crop Estimates Exaggerated

A writer in the Florida Times-Union, who signs himself "Citrus Grower," takes exception to what he considers exaggerated reports of the 1921 citrus crop in Florida.

There is little doubt that the present crop has been largely overestimated in some quarters, whether with intent or not is problematical. At any rate, the letter of "Citrus Grower" furnishes ample food for thought:

Editor Times-Union: The recent article in your paper in regard to the exaggerated reports that are going over the state concerning the citrus crop is, I am glad to say, being widely copied and commented upon by the press of the state and unquestionably will benefit the growers.

The writer has owned and been cultivating citrus groves for more than 40 years and has been very much surprised on the reports published by government officials that the "crop" has greatly improved since the drouth terminated.

It is impossible for a citrus crop to improve after June 30. If the seasons are regular, with the necessary rain and cultivation, the fruit will grow and mature normally, subject only to the usual percentage of splits and drops. If the season is drouthy and they are subject to wind storms, the fruit will be either dropped or thorned by the storms, or the drouth will prevent the normal developments in the size of the fruit, and the only improvement possible is in the trees, which, if properly cultivated and fertilized and with adequate moisture, will put on heavy new growth and provide for the next season's crop. These facts are known to every citrus grower in the state.

The Crop Short

For weeks past, in view of the reports that have been put in circulation, I have been making persistent inquiry from persons, by correspondence and orally, in nearly every county in the citrus belt, and I have yet to receive a reply that does not indicate a light crop. One of the largest buyers of citrus fruit in Dade county writes me that the crop will not exceed 50 per cent of what it was last year. In Lake, Volusia, Orange, St. Lucie, Palm Beach, Broward and Seminole counties my reports are all to the same effect. Where the bumper crop can come from, therefore, I cannot imagine.

The boosters and real estate specu-

lators, as well as the buyers, are trying to sustain their exaggeration by saying that the shortage in the old bearing groves is more than made up by the increased production of the young bearing groves. This is not true. Nearly all the young bearing groves are planted on high rolling land and these trees suffered more from the drouth than the trees in the old groves. The reason for this is that the tap root and lateral roots of old bearing trees are much deeper than they are in the young groves, and the drouth will affect the young groves quicker and cause a greater percentage of the fruit to drop than the old ones.

This year we have had two distinct drouths. The first lasted six weeks. An enormous percentage of the young fruit fell, in many groves the leaves of the trees curled and dropped. During this first drouth I personally visited crops in Sumter, Lake, Volusia and Orange counties and witnessed the effect on the trees. Then we had a few rains, which started to revive the trees, but of course could not replace the fruit that had fallen. A second drouth came, lasting 16 days, during which time the temperature rose to over 90 in the shade for some days. This renewed the dropping both of fruit and leaves until this second drouth was broken, and since then there has been very little dropping and the trees have resumed their good appearance where fertilized and properly cultivated.

The June Bloom

There was an unusually heavy June bloom and this fact has been seized upon by buyers and boosters to support the claim of a bumper crop. This claim is untenable. In the first place, not more than 10 per cent or 12 per cent of the June bloom ever developed into fruit. The writer's grove has an irrigating plant, yet in spite of the irrigation, quite a percentage of the young fruit dropped. It had the heaviest June bloom ever seen on the grove. I doubt very much if 15 per cent of them developed into fruit. The Florida June bloom orange can scarcely be counted on and for the reason that from some cause or other it seldom turns yellow, but matures into a pale yellowish green. It is usually a heavy fruit, full of juice and of superb flavor, but, unfortunately, you cannot get a good price for it in the northern markets because of the color. Some years ago a sensation

was created by a published article that green colored citrus fruit was "poisonous." This was published all over the United States and has created an intense prejudice because of the color. While the Florida June bloom orange is infinitely superior in flavor and juice to the California valencia, still the California fruit, because yellow and bright, commands in the northern and western markets nearly double the price of the Florida June bloom fruit.

Crop Vicissitudes

Just as with every crop that comes from the soil of Florida, citrus fruit is subject to the vicissitudes resulting from weather conditions, poor cultivation and insufficient fertilizing. It is remarkable that if the cotton crop or the corn and wheat crop is short, the fact is made public without any concealment. But in Florida such is the spirit of boasting and real estate speculating, as well as the propaganda of buyers, that it is almost impossible to get a truthful report of crop conditions. The writer sees no benefit accruing to the grower from these misrepresentations. The crop this year is short both in oranges and grapefruit and the growers should be apprised of this fact, so that they can get good prices when the season opens. Last year it was extensively circulated that there would be 10,000,000 crates of oranges and 7,000,000 crates of grapefruit. The actual crop was about 7,500,000 oranges and less than 5,000,000 crates of grapefruit. But as a result of the exaggerations, growers became demoralized, sold their crops on the trees for very small prices, rushed the fruit to market, glutted it everywhere, and a consequence but very few growers made any money from the last crop. But for this panic and their sacrifice of the fruit, if it had been marketed properly, the growers would have obtained from 75 cents to \$1 per crate more than they actually did.

I trust you will publish this for the benefit of the growers of the present crop.

CITRUS GROWER.

Jacksonville, Fla.

The state plant board is taking precautions against the spread of an insect known as the Japanese camphor scale into this state. The insect which attacks fruit trees, especially, was only recently discovered in New Orleans. M. •

Expert Reviews Market Outlook

When asked regarding the general market outlook for the coming season, Mr. F. L. Skelly, Manager, American Fruit Growers Inc., Orlando Division, Orlando, Florida, expressed himself as follows:

"I have just returned from a trip of several weeks throughout the north and was in close touch with the trade and our representatives.

"While at the present time there are a large number of people out of employment, there seems to be a general improvement along this line. There is more life in the steel industry than has been noted for the past several months. Eighteen plants in Pittsburgh, eleven in Buffalo, eleven in Chicago and six in the Cleveland district have resumed operations, after a period of idleness ranging from three months to almost a year, and there is a strong inquiry for futures which would indicate that the year 1922 will be a big year for the steel industry as a whole.

"Another encouraging feature is the cotton situation. The rise in the cotton market has bordered on the sensational, showing that in the past two weeks there was a net gain of four hundred seventy three points, or a gain of practically five cents a pound. Many factors in the trade are predicting twenty to twenty-five cent cotton before the end of this month. The result of this rise in cotton will be a renewal of the buying power in the South and this will necessarily have its effect throughout the entire industrial community.

"The reports of several railroads also give concrete evidence that the carriers have turned the corner and former deficits have been overcome. While operating expenses have not been reduced to any appreciable degree the net increases are reported substantially better.

"The probabilities are that conditions in many lines will improve during the fall and winter months.

"On account of the severe losses sustained by wholesale dealers they are not inclined to buy futures in citrus fruits as they have in past seasons. This not only applies to citrus fruits but is very evident in regard to apples, as there are not nearly so many apples being sold for storage purposes this season as during past seasons. Of course, one thing that seriously curtails this buying is that

money is tight and it is very hard for dealers to obtain financial assistance from the banks.

"In calling on our representatives and the dealers throughout the country, while I did not find them in an optimistic frame of mind, I did not find them pessimistic and they felt that they could obtain fair prices for well packed, well graded fruit. If a lot of immature citrus fruit not fit to eat is rushed out of this state early in the season it will not take long to fill the markets and stop consumer demand and the natural consequence would be a very sharp decline in price. However, if the fruit is allowed to remain on the trees until it is thoroughly ripe and it receives proper distribution and salesmanship, and the larger markets of the country are not over-crowded, no doubt we can go through the season with fair prices. Of course, the prices realized for fruit will depend a great deal on weather conditions throughout the country during the winter and if we have long periods of severe cold weather it will have its effects. If on the other hand we have a generally open winter, we can look for a free movement of fruit.

"With the slight reduction in the cost of boxes and paper there will be a little saved in the packing of fruit this season over last season. However, with the probability of fruit selling at practically pre-war prices, the cost of packing materials has not up to this time reached its corresponding proper level.

"Then, too, we must take into consideration the high freight rates on Florida fruits. While there is a great possibility of California's getting lower freight rates, bringing the cost of transportation, all rail, from California to New York down to \$1.22 per box, our rate, all rail, from Orlando to New York will be \$1.02 per box, being a differential between California and Orlando, in the rate to New York, of only 20 cents, while the water rate from California to New York is about 45 cents less than the all-rail rate from Orlando to New York. We know full well that if the Florida grower is going to get a fair return on his labor and investment, with fruits and vegetables selling at practically pre-war prices delivered in the markets, it will be necessary for the railroads to get back to pre-war rates, or they will be responsible for

great damage to the fruit and vegetable industry of the South.

"We have reliable information from California, under date of September 7th, that there are about 5,000 cars of Valencias, still unshipped. Shipments will continue throughout this month at the rate of about 125 cars per day and it is probable that there will be about 2,000 cars of Valencias left to be shipped after October 1st. The northern navel crop is about 25 per cent larger than it was last year. Shipments will probably begin to move about November 10th, heaviest movement around November 20th.

"The apple crop is about 50 to 60 per cent of last season, there being a heavy increase in northwestern apples, with a very heavy decline in eastern apples. Bananas are in very heavy supply and are selling at moderate prices and no doubt will continue so throughout the winter months."

When asked his opinion of the crop conditions of the state, Mr. Skelly stated that it was the consensus of opinion that the orange crop is practically the same as last year, while the grapefruit crop is somewhat larger. However, weather conditions, particularly the amount of rainfall from now on until the crop matures, will be quite a factor in the size of the crop. In many parts of the state the effects of the continued dry period are being felt.

"We are in a most favorable position this season for the handling of our output," Mr. Skelly continued, "as we have strengthened our selling organization very materially throughout the country and our shippers feel assured that they will receive the highest market price for their products. Unquestionably the results obtainable may be distinctly influenced by the strategy and skill employed in meeting the situation as it develops."

BUYS FINE GROVE

Henry C. F. Schimpf, Sheboygan, Wis., has bought what is known as the Frese grove from Ralph S. Frese of Bloomington, Ill. Mr. Schimpf is the father of Henry Schimpf, publisher of the Zephyr at Crooked Lake, but has not heretofore been financially interested in the state.

A Pioneer Grove of Lee County

The Fort Myers Tropical News gives the following interesting history of one of the pioneer groves of Lee county, where some of the choicest citrus fruits of the state are grown:

One of the pioneer groves of this section of Florida is located between Owanita and Alva on the banks of the Caloosahatchee river. This grove is a part of the A. A. Gardner estate, and was planted in 1872 by Capt. McKinley. Two hundred of these old trees, magnificent types of citrus trees, with their stately heads well filled with choicest fruit, stand in this old grove proof of longevity of citrus trees in this tropical section of Florida. Mr. Gardner is of the opinion that they will still be bearing fruit for fifty years. Only twenty of these old trees through all the years have become affected with ravages of disease of of time and are now being cut out of the grove in order that it may present itself as a grove of the highest standard. This is indeed remarkable when the fact that this old grove through the greatest portion of its life received little care and no fertilizer. It is only in recent years that this grove has been fertilized and cared for. Most of the trees are oranges, the balance grapefruit, and

are splendid types of the best in seedling trees. Mr. Gardner takes a great deal of pride in this old grove, which occupies a central position in his sixty acre grove, and well he might as any citrus grower or layman would admit upon viewing the grove.

Mr. Gardner has one of the finest groves and one of the most picturesque homes on the Caloosahatchee river. A magnificent view greets the eye from the porch of his attractive residence, where the river makes one of its many curves, showing a wonderful tropical scene along its banks. The grove proper shows that it receives every needed care and attention, the trees well filled with fruit that will grade as A No. 1, the grapefruit already showing a pronounced polish and perfect shape. The writer was shown the everbearing orange tree from which the buds of the late famed "everbearing" orange of Avon Park originated. The tree held fruit in all stages of development, and some ripened fruit was sampled and greatly enjoyed, Mr. Gardner stating that it had already ripened three crops of fruit this year. Other interesting features of this grove, aside from the old 1872 grove, were a Brazilian and a Mediterranean orange tree, each well loaded with fruit. The grove extends for a mile

along the banks of the Caloosahatchee and the soil is some of the richest to be found in the county, some of it most fertile black soil, while some of it light white sand, but all the trees were of the highest type and showing the dark rich green foliage of health. The fruit is marketed through the Owanita Citrus Exchange house, which is located on an adjoining piece of property, and of which Mr. Gardner is one of the leading members and promoters. The Owanita packing house is a member of the Florida Citrus Exchange. Cultivation, mowing, etc., is all done by an International tractor. At present Mr. Gardner is having a considerable acreage made ready for trucking between the trees in the grove, peppers, eggplant, cucumbers, tomatoes, etc., and will also plant strawberries as the soil is especially adapted to producing the finest berries in profusion. The writer has long since become convinced that citrus fruit growing to be highly successful is purely a business proposition, requiring as much technical knowledge and close attention as any other business, and Mr. Gardner's success speaks eloquently of this, and his developing of Lee county land not only will result in his financial success but will be a most valuable asset as an example for other growers.

New System of Protecting Fruit

Something new and which bids fair to revolutionize the shipping end of the citrus industry is being offered to citrus growers and shippers by Brogden, Ricketts and Haworth, well known builders and construction engineers of south Florida. Following a long series of experimental and practical tests, they have perfected a chemical and mechanical system of protecting citrus fruit which is said to take it to the market in as good a condition as when it leaves the tree. This is an important step forward, because considerable money is lost annually from citrus fruit rotting or shrinking while en route to and in the market. The prevention of shrinkage of oranges and grapefruit means a good deal at the selling end of the game, because buyers and consumers will naturally show a preference for solid, sound fruit, against that which has grown flabby or soft.

Brogdex, which is to be the name of the new protection for fruit, is

such that it is not noticeable to the eye when on the fruit and really has no objectionable features, either in the method of application or in its action or appearance on the fruit.

The firm of Brogden, Ricketts and Haworth have had much experience in the building and equipping of citrus packing plants and are at present engaged in building several packing houses in this state. Mr. Brogden is a mechanical engineer and builder of long and wide experience. Some time ago the problem of protecting citrus fruits so that they might reach the market in better condition presented itself and Mr. Brogden set to work at once to solve it. His experience and work in this connection would form the basis for an interesting story, which is too long to recount here, but it is sufficient to say that Mr. Brogden is deserving of much credit for the excellent results he has obtained.

Speaking of his new system of

fruit protection, Mr. Brogden recently said: "We feel confident that we have something which will ultimately mean an enormous saving to the citrus industry, both from a saving in loss resultant from rotting fruit in transit and from the better prices which fruit treated by our process is bound to bring. We are prepared to install the necessary mechanical and chemical equipment at two week's notice and we hope to be able to be of service to citrus shippers this coming season."

Asked about the cost of this treatment, Mr. Brogden said: "The cost is relatively small and is lost sight of in the increased selling price and keeping quality which should result from it."

Livestock men should make special efforts now to provide winter pasturage for their animals.

Oldsmar Grove Heater is Having a Great Sale.

Sales of the Oldsmar Grove and Garden Heater and Frost Protector, manufactured by the Oldsmar Tractor company at Oldsmar, Florida, have become almost phenomenal when it is considered that this heater is just being placed on the market for the first time.

Already more than 30,000 of these heaters have been sold to Florida grove owners for delivery before November 1. All of these orders have been received since May 1, when the selling campaign was first started. Sales in Florida range from 100 heaters up, one single order of 5,000 having been placed for delivery at Arcadia. Most of the orders range from 200 to 500, indicating that owners of small grove acreages are among the interested buyers who are investing in this brand of frost insurance.

While the work of introducing the heaters in Florida has been under way, the heaters have also invaded California, the home of the most practical and best known of grove heaters formerly on the market. All told, orders for California delivery before November 1 number more than 100,000, one single order of 20,000 having been booked.

At the foundry in Oldsmar about 18,000 heaters were stored on September 1, only a little more than one-half the number which will be required to fill the Florida orders already booked. To care for the California trade it has been found necessary to enlist the services of a foundry at Coldwater, Mich., where the Kell-Oil Heater company has been organized to reinforce the Oldsmar Tractor company in the manufacture of these popular heaters. At the same time, the capacity of the Oldsmar factory has been doubled to permit of greater output and the selling campaign is being extended to the states of Mississippi, Louisiana, Alabama, Texas and New Mexico, where extensive citrus operations are carried on, while the introduction of the heaters into the apple and peach orchards of the North will soon be under way.

A test of these heaters recently made at the Armour Institute in Chicago developed 100 per cent efficiency, as the following telegram received by Mr. H. D. Keller, inventor of the Oldsmar Heater, shows.

"H. D. Keller, "Coldwater, Mich.

"Tests made by the Armour Institute in Chicago show 100 per cent effi-

ency on grove heaters.

"W. A. REED."

Such a showing by the Armour Institute is a pretty safe guarantee that the Oldsmar Heater will do all that is claimed for it.

The same company is preparing to place on the market a steam-heating plant designed particularly for the heating of homes in the sub-tropical areas of the United States. The first of these heating plants has been received and will be demonstrated under Florida conditions as soon as weather conditions will permit.

There is a demand in the western states and in Florida at certain times during the year for a heater to take the chill from the rooms in the homes, and it was with this thought in mind that Mr. Keller started the experiments that have exceeded his fondest hopes.

Applications have already been made for sales territory on all the models as soon as they are manufactured in sufficient quantities to place on the market. Mr. Keller said that he expected to have some of the heaters ready to try out in this vicinity, as well as in the western states, later in the fall. They will be experimented with in the homes, and the results watched with interest. If they prove to work out as well as the models, arrangements will be made to manufacture them on a large scale.

All of the heaters burn a low grade of crude oil which can be procured for about six cents a gallon in quantities. The consumption of the burners in the experimental stages, ranges from one-half to three-quarters of a gallon per hour. A thermostat arrangement is being worked out so that it will be possible to connect a barrel or tank of oil and it will automatically control the heat and about all that will be necessary will be to keep a supply of oil on hand. Surely an ideal arrangement.

While Mr. Keller is very reluctant to state just what his invention will do in the heating game, he has been assured by experts who have seen his tests that he has perfected a wonderful heating apparatus, and only time will tell what the possibilities are, and the magnitude to which the business can be expanded. All of the heaters are fully protected by patents.

INDEPENDENT PACKING COMPANY AT BARTOW

The Gulf Fruit and Packing company, an independent corporation, in which local capital is interested, and which will be located at Bartow, will probably be ready for business by November 1, according to an official of the company, who stated to a Bartow Record reporter that contract has already been made for the house, and much of the machinery has been purchased. Walter McNeil of Savannah is president of the company, Dr. V. H. Miller vice-president and secretary, and M. E. James, treasurer.

The company will be capitalized at \$100,000 and the house will have a capacity of about 200,000 boxes. While it is the purpose of the new packing plant to handle grapefruit, oranges and other citrus fruits, attention will also be made to shipments of truck, such as cabbage and other vegetables.

While the Gulf Fruit and Packing company has not yet chosen its location, it will be conveniently situated near one of the railroads, and will be in Bartow, where it will be in position to handle fruits and vegetables from growers and truckers of this section, who, when they wished to ship independently heretofore were forced to send their fruits or produce to outside packing plants for handling.

The new company will buy and market its own fruit, and will buy, and also pack and market for others, and as there are many growers in this section of the state who are not affiliated with any of the exchanges, it is felt that the independent company may fill a need, and be helpful to growers who do not ship through the exchange, and have not the facilities to handle their own shipments. At the present time, such growers have to send their fruit to Winter Haven, Ormond, or some other town, to be packed.

"The Gulf Fruit and Packing company will buy fruit for shipment, or will ship fruit for other growers," said an official of the company, "and we believe that the sentiment is strong for such an organization, working independently, and offering to packers not affiliated with an exchange, an opportunity to have their packing done here at home, and have shipments made through our company, which will be modern in every way, and convenient to the growers of Bartow and other Polk county and central Florida towns.

Twenty

SCHOOL TROPICAL AGRICULTURE FOR FLORIDA

The action of the State Board of Control, at its meeting August 8, in committing itself to the policy of establishing a "School of Tropical Agriculture," connected with the University of Florida, Gainesville, has been received with satisfaction by the officials of the Institute of Research in Tropical America.

The latter organization is composed of a large number of the principal universities and museums of this country, including such institutions as Princeton University, Carnegie Museum and others, along with the University of Florida. The officials of the institute contemplate the establishment of a vast institution for the intensive study of problems in tropical agriculture. This institution, when established, will include a tropical experiment station, a botanical garden, a division of extension in tropical agriculture and a school of tropical agriculture, the latter for the purpose of training young men in the cultivation and management of such crops as citrus, coffee, rubber, sugar cane and other products of Tropical America.

Various Central and South American countries are being explored as possible sites for the institute, but Director Wilmon Newell, of the University of Florida Experiment Station, believes that the institute can be located in Florida to better advantage than elsewhere and is working hard to that end. If located in this state, the University of Florida will be directly responsible for that part known as the School of Tropical Agriculture. In his efforts to get the major institution located in this state, Dr. Newell has the full backing of University authorities, the Board of Control and the State Horticultural Society.

LIGHT ON CITRUS TAXATION

A subject of much interest and importance to the citrus grower at the present time is that of the valuation of citrus fruit properties for purposes of taxation.

This subject will be discussed at the Citrus Seminar at the University of Florida, Gainesville, October 4-5, by no less an authority than State Equalizer of Taxes Marion L. Dawson.

Mr. Dawson's address will be an exhaustive analysis of this pertinent question. No citrus grower in Florida should fail to attend the seminar and hear this address.

THE CITRUS INDUSTRY

LOOK OUT FOR RUST MITE

Mr. Citrus Grower, look over your grove carefully and, if rust mites are common, spray at once with lime-sulphur or dust with sulphur and lime.

Rust mites are now abundant in some parts of the citrus belt. Professor J. R. Watson, entomologist of the Florida Experiment Station, says they are usually not abundant at this time of the year, but as the month of August was so abnormally dry, the

rust mites have become abundant in many parts of the state.

The outbreak, coming at this time, is especially dangerous, as many growers are not in the habit of looking for rust mites at this season and are, therefore, apt to be caught napping. If you find the mites on your trees, spray with lime-sulphur or dust with sulphur and lime.

Swat the fly, but remember that corn saved from weevils this winter will be good money next spring and summer.



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